BBB TANK SERVICES, INC.
AST SERVICES AND NEW API TANKS

March 3, 2010

**Mr. Ralph Gamble**
**BBB TANK SERVICES, INC.**
**9225 Leopard Street**
**Corpus Christi, Texas 78409**

# API-653 INSPECTION REPORT Summary

IN SERVICE INSPECTION _____ DATE _____
OUT OF SERVICE INSPECTION **XXX** DATE **MARCH 3, 2010**

| | |
|---|---|
| **CLIENT** | **SUPERIOR CRUDE GATHERING** |
| **LOCATION** | **INGLESIDE, TEXAS** |
| **TANK #** | **13** |
| **SIZE** | **122'-6" Diameter x 40'-0 High** |
| **DESCRIPTION** | **Cone Roof Tank with Internal Floating Roof (Aluminum).** |

As per request this tank was examined and inspected in accordance with the API-653 Out of Service inspection requirements and the following items are a summary of the inspection and my recommendation for repairing this tank.

**1. EXTERIOR-**

**A. Shell**- The shell is acceptable.

**B. Fixed Roof**- The fixed cone roof has a lot of holes, rust and corroded areas. The existing patch plates seem to be fine, however the entire roof should be closely examined and patch plates applied were they are needed.

Examination by visual and hammer tests revealed thin spots in the roof. The estimated area to receive patch plates is 1200 to 1500 square feet of the roof.

**C. Fixed Roof Fittings-**

1. Repair the painters lug
2. Replace the bolting and screens on the roof vents.

**D. Nozzles/Manways**- The gaskets should be replaces prior to putting the tank back in service and some of the nuts and bolts will also require replacement.

**E. Paint**- The exterior paint requires repair and will require roof surface preparation and painting after the roof patches are installed and after the tank bottom work is complete.

**2. INTERIOR-**

9569134

BBB TANK SERVICES, INC.
AST SERVICES AND NEW API TANKS

**A. Aluminum Interior Floating Roof**- The pontoons, deck and seal seem to be in fair to good condition. However, a few repairs are required.

1.( 4) Four areas at the rim angle at the primary seal need to be repaired.
2. (13) Roof drain tubes need to be replaced.
3. ( 7) rips in the deck skin need to be repaired.

**B. Tank Bottom**- A visual and hammer test examination of the tank bottom revealed a multitude of holes, severe corrosion, rips, thin plate and problems with the tank bottom.

The tank bottom should be replaced in lieu of patching.

When examining the tank bottom there were numerous low spots as well as "tin Canning" while walking on the tank bottom. This indicates voids under the tank bottom that will require new sand fill.

If you have questions or concerns regarding this summation letter or my inspection please let me know.

**Sincerely,**
**BBB TANK SERVICES, INC.**

Robert E. Swain

**Robert E. Swain**
**API-653 Certified Inspector # 6290**

Corporate Office: 9225 Leopard St. – Corpus Christi, Texas 78409 – Phone (361) 241-1001 – Fax (361) 241-1006
Operations Office: 3506A Battleground Rd - LaPorte, Texas 77571 - Phone (281) 542-9330 - Fax (281) 542-9336

| TANK OUT-OF-SERVICE INSPECTION CHECKLIST | | | |
|---|---|---|---|
| | Item | Completed ✓ | Comments |
| C.2.1 | OVERVIEW | ✓ | |
| | a. Check that tank has been cleaned, is gas free, and safe for entry. | ✓ | |
| | b. Check that the tank is completely isolated from product lines, all electrical power, and steam lines. | ✓ | |
| | c. Check that roof is adequately supported, including fixed roof structure and floating roof legs. | ✓ | Add cribbing for safe work |
| | d. Check for presence of falling object hazards, such as corroded-through roof rafters, asphalt stalactites, and trapped hydrocarbons in unopened or plugged equipment or appurtenances, ledges, etc. | ✓ | None |
| | e. Inspect for slipping hazards on the bottom and roof decks. | ✓ | None |
| | f. Inspect structural welds on accessways and clips. | ✓ | |
| | g. Check surfaces needing inspection for a heavy-scale buildup and check weld seams and oily surfaces where welding is to be done. Note areas needing more cleaning, including blasting. | ✓ | |
| 05 | h. Review cathodic protection potential readings. | N/A | |
| C.2.2 | TANK EXTERIOR | | |
| | a. Inspect appurtenances opened during cleaning such as lower floating swing sheave assemblies, nozzle interiors (after removal of valves). | ✓ | |
| | b. Hammer test or ultrasonically test the roof. | Hammer | Patch Plates Required |
| | c. Enter and inspect the floating roof pontoon compartments. | N/A | |
| C.2.3 | BOTTOM INTERIOR SURFACE | | |
| | a. Using a flashlight held close to and parallel to the bottom plates, and using the bottom plate layout as a guide, visually inspect and hammer test the entire bottom. | ✓ | Bottom need replacement |
| | b. Measure the depth of pitting and describe the pitting appearance (sharp edged, lake type, dense, scattered, etc.) | Too many | To count |
| | c. Mark areas requiring patching or further inspection. | Replace | Bottom |
| | d. Mark locations for turning coupons for inspection. | N/A | * |
| | e. Inspect all welds for corrosion and leaks, particularly the shell-to-bottom weld. | N/A | |
| | f. Inspect sketch plates for corrosion. | ✓ | Corrosion |
| 01 | g. Check condition of internal sump, if applicable. Standing liquid should be removed from the sump to allow for complete inspection and vacuum testing of weld seams as appropriate. Sump bottom and sidewall plate and seams need to be evaluated for both product-side and soil-side corrosion. | ✓ | |
| | h. Locate and mark voids under the bottom. | ✓ | Appears Voids * |
| | i. Record bottom data on a layout sketch using the existing bottom plates as a grid. List the number and sizes of patches required. | N/A | |
| | j. Vacuum test the bottom lap welds. | N/A | |
| | k. Hammer test or ultrasonically examine any slightly discolored spots or damp areas. | ✓ | Holes |
| | l. Check for reinforcing pads under all bottom attached clips, brackets, and supports. | ✓ | |
| | m. Inspect floating roof leg pads for pitting or cutting, and excessive dimpling (indicating excessive loading). | ✓ | |
| | n. Check the column bases of fixed roof supports for adequate pads and restraining clips. | N/A | |
| | o. In earthquake zones 3 and 4, check that roof supports are not welded down to the tank bottom, but are only restrained from horizontal movement. | N/A | |
| | p. Check area beneath swing line cable for indications of cable cutting or dragging. | N/A | |
| | q. Mark old oil and air test connection for removal and patching. | N/A | |
| | r. Identify and report low areas on the bottom that do not drain adequately. | NO | |
| | s. Inspect coating for holes, disbonding, deterioration, and discoloration. | Re coat | If Applicable |

* Not Done - Bottom is in poor condition and need replacement.

| TANK OUT-OF-SERVICE INSPECTION CHECKLIST—Continued | | | |
|---|---|---|---|
| | Item | Completed √ | Comments |
| | h. Report if the columns have cross bracing in the area between the low pump out of the top of the shell (for future internal floating roof installation). | N/A | |
| | i. Inspect and report presence of any roof-mounted swing line bumpers. | N/A | |
| | j. Photograph the roof structure if no rafter layout drawing exists. | N/A | |
| C.2.7 | **FIXED ROOF APPURTENANCES** | | |
| C.2.7.1 | **Inspection and Light Hatches** | N/A | |
| | a. Inspect the hatches for corrosion, paint and coating failures, holes, and cover sealing. | ) | |
| | b. On loose covers, check for a safety chain in good condition. | ) | |
| | c. On light hatches over 30 in. across, check for safety rods. | ) | |
| | d. Inspect the condition of the gaskets on bold or latched down hatch covers. | ) | |
| C.2.7.2 | **Staging Support Connection** | | |
| | Inspect the condition of the staging support for corrosion. | / | Repair |
| C.2.7.3 | **Breathers and Vents** | N | |
| | a. Inspect and service the breather. | / | |
| | b. Inspect screens on vents and breathers. Replace Screens | / | Replace Bolting |
| C.2.7.4 | Emergency P/V Hatches | N/A | |
| | a. Inspect and service pressure/vacuum hatches. (Setting should be high enough to prevent chattering of breather during normal operation. See breather manufacturer's guide.) | ) | |
| | b. Inspect liquid seal hatches for corrosion and proper liquid level in the seal. | ) | |
| C.2.7.5 | **Sample Hatch** | | |
| | a. Inspect sample hatch for corrosion. | / | Ok |
| | b. Check that the cover operates properly. | / | Ok |
| | c. If the tank has no gauge well, check for a hold-off distance marker and check measurement. | | |
| C.2.8 | **FLOATING ROOF** | Aluminum IFR | |
| C.2.8.1 | **Roof Deck** | | |
| | a. Hammer test the area between roof rim and shell. (If access for hammer testing is inadequate, measure the distance from the bottom edge of the roof to the corroded area and then hammer test from inside the pontoon.) | N/A | |
| | b. In sour water service, clean and test all deck plate weld seams for cracking unless the lower laps have been seal-welded. | N/A | |
| | c. Check that either the roof drain is open or the drain plug in the roof is open in case of unexpected rain. | N/A | |
| | d. On flat bottomed and cone bottom roof decks, check for a vapor dam around the periphery of the roof. The dam should be continuous without break to prevent escape of vapors to the seal area from under the center of the roof. | N/A | |
| C.2.8.2 | **Floating Roof Pontoons** | | |
| | a. Visually inspect each pontoon for liquid leakage. | Ok | |
| | b. Run a light wire through the gooseneck vents on locked down inspection hatch covers to make sure they are open. | No | |
| | c. Inspect lockdown latches on each cover. | No | |

| TANK OUT-OF-SERVICE INSPECTION CHECKLIST—Continued | | | |
|---|---|---|---|
| | Item | Completed √ | Comments |
| | b. Inspect hold-down system for buckling or bending. | N/A | ** |
| | c. Inspect foam for liquid absorption and deterioration. | N/A | |
| C.2.9.3 | **Rim-Mounted Secondaries** | N/A | |
| | a. Inspect the rim-mounted bolting bar for corrosion and broken welds. | | |
| | b. Measure and chart seal-to-shell gaps. | | |
| | c. Visually inspect seam from below, looking for holes as evidenced by light. | | |
| | d. Inspect fabric for deterioration and stiffness. | | |
| | e. Inspect for mechanical damage, corrosion, and wear on tip in contact with shell. | | |
| | f. Inspect for contact with obstructions above top of shell. | | |
| C.2.10 | **FLOATING ROOF APPURTENANCES** | | |
| C.2.10.1 | **Roof Manways** | | |
| | a. Inspect walls of manways for pitting and thinning. | ok | |
| | b. On tanks with interface autogauges, check seal around gauge tape cable and guide wires through manway cover. | ok | |
| | c. Inspect cover gasket and bolts. | ok | |
| C.2.10.2 | **Rim Vent** | N/A | |
| | a. Check rim vent for pitting and holes. | | |
| | b. Check vent for condition of screen. | | |
| | c. On floating roof tanks where the environmental rules require closing off the vent, check the vent pipe for corrosion at the pipe-to-rim joint and check that the blinding is adequate. | | |
| C.2.10.3 | **Vacuum Breaker, Breather Type** | N/A | |
| | a. Service and check operation of breather valve. | | |
| | b. Check that nozzle pipe projects no more than $^1/_2$ in. below roof deck. | | |
| C.2.10.4 | **Vacuum Breaker, Mechanical Type** | ok | |
| | Inspect the stem for thinning. Measure how far the vacuum breaker cover is raised off the pipe when the roof is resting on high or low legs. | | |
| | a. On high legs: 6'-0". | | |
| | b. On low legs: 3'-6". | | |
| C.2.10.5 | **Roof Drains: Open Systems, Including Emergency Drains** | ok | |
| | a. Check liquid level inside open roof drains for adequate freeboard. Report if there is insufficient distance between liquid level and top of drain. | | |
| | b. If tank comes under Air Quality Monitoring District rules, inspect the roof drain vapor plug. | | |
| | c. If emergency drain is not at the center of the roof, check that there are at least three emergency drains. | | |
| C.2.10.6 | **Closed Drain Systems: Drain Basins** | N/A | |
| | a. Inspect for thinning and pitting. | | |
| | b. Inspect protective coating (topside). | N/A | |
| | c. Inspect basin cover or screen for corrosion. | | |
| | d. Test operation of check valve. | | |

** Floating roof seal system requires minor repairs - (4) Areas.
Roof Drains replace 13-14

| TANK OUT-OF-SERVICE INSPECTION CHECKLIST—Continued | | | |
|---|---|---|---|
| | Item | Completed √ | Comments |
| | e. Check for presence of check valve where bottom of basin is below product level. | N/A | |
| | f. Inspect drain basin(s) to roof deck welds for cracking. | | |
| | g. Check drain basin(s) outlet pipe for adequate reinforcement to roof deck (including reinforcing pad). | | |
| C.2.10.7 | **Closed Drain Systems: Fixed Drain Line on Tank Bottom** | N/A | |
| | a. Hammer test fixed drain line on tank bottom for thinning and scale/debris plugging. | | |
| | b. Inspect supports and reinforcing pads for weld failures and corrosion. | | |
| | c. Check that pipe is guided, not rigidly locked to support, to avoid tearing of tank bottom plate. | | |
| C.2.10.8 | **Closed Drain Systems: Flexible Pipe Drain** | N/A | |
| | a. Inspect for damage to exterior of pipe. | | |
| | b. Check for obstructions that pipe could catch on. | | |
| | c. Inspect shields to protect pipe from snagging. | | |
| | d. Inspect results of hydrostatic test on flexible roof drain system. | | |
| C.2.10.9 | **Closed Drain Systems: Articulated Joint Drain** | N/A | |
| | a. Hammer test rigid pipe in flexible joint systems for thinning and scale/debris plugging. | | |
| | b. Inspect system for signs of bending or strain. | | |
| | c. Inspect results of system hydrostatic test. | | |
| | d. Inspect landing leg and pad. | | |
| C.2.10.10 | **Autogauge System and Alarms** | N/A | |
| | a. Check freedom of movement of tape through autogauge tape guide. | | |
| | b. Inspect sheaves for freedom of movement. | | |
| | c. Test operation checker. | | |
| | d. Inspect tape and tape cable for twisting and fraying. | | |
| | e. Test the tape's freedom of movement through guide sheaves and tape guide pipe. | | |
| | f. On open-top tanks, check that gate tapes with cables have no more than one foot of tape exposed with float at lowest point. | | |
| | g. Check float for leakage. | | |
| | h. Test float guide wire anchors for spring action by pulling on wire and releasing. | | |
| | i. Inspect floatwells in floating roofs for thinning and pitting of walls just above the liquid level. | | |
| | j. Check that the autogauge tape is firmly attached to the float. | | |
| | k. Inspect the tape cable and float guide wire fabric seals through the float well cover. | | |
| | l. Inspect the bottom guide wire attachment clip: inspect for a temporary weighted bar instead of a permanent welded down clip. | | |
| | m. Inspect board-type autogauge indicators for legibility and freedom of movement of indicator. | | |
| | n. Measure and record these distances to determine if seal damage will occur if tank is run over from: | | |
| | 1. Shell top angle to underside of tape guide system. | | |
| | 2. Liquid level on floating top to top of secondary seal. | | |

| TANK OUT-OF-SERVICE INSPECTION CHECKLIST—Continued | | | |
|---|---|---|---|
| | Item | Completed √ | Comments |
| | o. Identify floating roofs where the tape is connected directly to the roof. | ✓ | |
| | p. Overfill alarm: Inspect tank overfill prevention alarm switches for proper operation. | ✓ | |
| C.2.11 | **COMMON TANK APPURTENANCES** | ✓ | |
| C.2.11.1 | **Gauge Well** | | √√ |
| | a. Inspect gate well pipe for thinning at about two-thirds distance above the bottom: look for thinning at the edge of the slots. | ✓ | |
| | b. Check for corrosion on the pipe joint. Check that sample cords, weights, thermometers, etc., have been removed from the pipe. | ✓ | |
| | c. Check for cone at bottom end of pipe about one foot above the bottom. | ✓ | |
| | d. Check condition of well washer pipe and that its flared end is directed at the near side of the hold off pad. | ✓ | |
| | e. Check that supports for gauge well are welded to pad or to shell and not directly to bottom plate. | ✓ | |
| | f. Check operation of gauge well cover. | ✓ | |
| | g. Check presence of a hold-off distance marker in well pipe and record hold-off distance.<br>Hold-off distance _____ | ✓ | |
| | h. Identify and report size and pipe schedule, and whether pipe is solid or slotted. Report slot size. | ✓ | |
| | i. Check that the hold-off distance plate is seal-welded to the bottom and that any gauge well supports are welded to the plate and not directly to the bottom. | ✓ | |
| | j. Inspect vapor control float and cable. | ✓ | |
| | k. Check for presence and condition of gauge well washer. | ✓ | |
| | l. Check for bull plug or plate blind on gauge well washer valve. | ✓ | |
| | m. Inspect gauge well guide in floating roof for pitting and thinning. | ✓ | |
| | n. Inspect the guide rollers and sliding plates for freedom of movement. | ✓ | |
| | o. Inspect condition of gauge well pipe seal system. | ✓ | |
| | p. On black oil and diesel services: if gauge well is also used for sampling, check for presence of a thief- and gauge-type hatch to avoid spillage. | ✓ | |
| | q. Visually inspect inside of pipe for pipe weld protrusions which could catch or damage vapor control float. | | |
| C.2.11.2 | **Sampling Systems: Roof Sample Hatches** | | |
| | a. Inspect roof-mounted sample hatches for reinforcing pads and cracking. | ✓ | Ok |
| | b. Inspect cover for operation. | ✓ | Ok |
| | c. For tanks complying with Air Quality Monitoring District rules, inspect sample hatch covers for adequate sealing. | ✓ | Ok |
| | d. Check horizontal alignment of internal floating roof sample hatches under fixed roof hatches. | ✓ | Ok |
| | e. Inspect the sealing system on the internal floating roof sample hatch cover. | ✓ | Ok |
| | f. Inspect floating roof sample hatch cover recoil reel and rope. | ✓ | Ok |
| C.2.11.3 | **Shell Nozzles** | | |
| | a. Inspect shell nozzles for thinning and pitting. | ✓ | |
| | b. Inspect hot tap nozzles for trimming of holes. | ✓ | |

√√ Gauge well - Roller need replacing & guide Bars
Plus the tape

| TANK OUT-OF-SERVICE INSPECTION CHECKLIST—Continued | | | |
|---|---|---|---|
| | Item | Completed √ | Comments |
| | c. Identify type of shell nozzles. | / | |
| | d. Identify and describe internal piping, including elbow-up and elbow-down types. | / | |
| C.2.11.4 | **For Nozzles Extended into the Tank** | | |
| | a. Inspect pipe support pads welded to tank bottom. | / | XXX |
| | b. Inspect to see that pipe is free to move along support without strain or tearing action on bottom plate. | / | |
| | c. Inspect nozzle valves for packing leaks and damaged flange faces. | / | |
| | d. Inspect heater stream nozzle flanges and valves for wire cutting. | / | |
| | e. Report which nozzles have thermal pressure relief bosses and valves. | / | |
| | f. In internal elbow-down fill line nozzles, inspect the wear plate on the tank bottom. | / | |
| | g. On elbow-up fill lines in floating roof tanks, check that opening is directed against underside of roof, not against vapor space. Inspect impact are for erosion. | / | |
| C.2.11.5 | **Diffusers and Air Rolling Systems** | N/A | |
| | a. Inspect diffuser pipe for erosion and thinning. | | |
| | b. Check holes in diffuser for excessive wear and enlargement. | | |
| | c. Inspect diffuser supports for damage and corrosion. | | |
| | d. Check that diffuser supports restrain, not anchor, longitudinal line movement. | | |
| | e. Inspect air spiders on bottom of lube oil tanks for plugging and damaged or broken threaded joints. | | |
| C.2.11.6 | Swing Lines | N/A | |
| | a. Inspect flexible joint for cracks and leaks. | | |
| | b. Scribe the flexible joint across the two moving faces and raise end of swing line to check the joint's freedom of movement, indicated by separation of scribe marks. | | |
| | c. Check that flexible joints over 6 in. are supported. | | |
| | d. Inspect the swing pipe for deep pitting and weld corrosion. | | |
| | e. Loosen the vent plugs in the pontoons and listen for a vacuum. Lack of a vacuum indicates a leaking pontoon. | | |
| | f. Check the results of air test on pontoons during repairs. | | |
| | g. Inspect the pontoons for pitting. | | |
| | h. Inspect the pull-down cable connections to the swing. | | |
| | i. Inspect the condition of the bottom-mounted support, fixed roof limiting bumper, or shell-mounted limiting bumper for wood condition, weld and bolt corrosion, and seal welding to bottom or shell. | | |
| | j. Inspect safety hold-down chain for corrosion and weak links. | | |
| | k. Check that there is a welded reinforcing pad where the chain connects to the bottom. | | |
| | l. If the floating swing in a floating or internal floating roof tank does not have a limiting device preventing the swing from exceeding 60 degrees, measure and calculate the maximum angle possible with the roof on overflow.<br>Max. angle on overflow _____.<br>(If the calculated angle exceeds 65 degrees, recommended installation of a limiting bracket.) | | |
| | m. Inspect pull-down cable for fraying. | | |

XXX Sump nozzles removed and reinstall of bottom replaced.

| TANK OUT-OF-SERVICE INSPECTION CHECKLIST—Continued | | | |
|---|---|---|---|
| | Item | Completed √ | Comments |
| | n. Inspect for three cable clamps where cable attaches to end of swing line (single-reeved) or to roof assembly (double-reeved). Inspect sheaves for freedom of movement. | | |
| | o. Inspect winch operation and check the height indicator for legibility and accuracy. | | |
| | p. Inspect bottom-mounted sheave assembly at end of pontoon for freedom of rotation of sheave. | | |
| | q. Inspect shell-mounted lower sheave assembly for freedom of rotation of sheave, corrosion thinning, and pitting of sheave housing. | | |
| | r. Inspect upper sheave assembly for freedom of movement of sheave. | | |
| | s. Inspect the cable counterbalance assembly for corrosion and freedom of operation. | | |
| C.2.11.7 | **Manway Heater Racks** | N/A | |
| | a. Inspect the manway heater racks for broken welds and bending of the sliding rails. | | |
| | b. Measure and record the length of the heater and length of the track. | | |
| C.2.11.8 | **Mixer Wear Plates and Deflector Stands** | N/A | |
| | a. Inspect bottom and shell plates and deflector stands. | | |
| | b. Inspect for erosion and corrosion on the wear plates. Inspect for rigidity, structural soundness, corrosion, and erosion of deck plates and reinforcing pads that are seal-welded to the bottom under the deflector stand legs. | | |
| | c. Measure for propeller clearance between the bottom of deflector stand and roof when the roof is on low legs. | | |
| C.2.12 | ACCESS STRUCTURES | | |
| C.2.12.1 | **Handrails** | | |
| | a. Identify and report type (steel pipe, galvanized pipe, square tube, angle) and size of handrails. | ✓ | ok |
| | b. Inspect for pitting and holes, paint failure. | ✓ | ok |
| | c. Inspect attachment welds. | ✓ | ok |
| | d. Identify cold joints and sharp edges. Inspect the handrails and midrails. | ✓ | ok |
| | e. Inspect safety drop bar (or safety chain) for corrosion, functioning, and length. | ✓ | ok |
| | f. Inspect the handrail between the rolling ladder and the gaging platform for a hazardous opening when the floating roof is at its lowest level. | ✓ | ok |
| C.2.12.2 | **Platform Frame** | ok | |
| | a. Inspect frame for corrosion and paint failure. | ✓ | ok |
| | b. Inspect the attachment of frame to supports and supports to tank for corrosion and weld failure. | ✓ | ok |
| | c. Check reinforcing pads where supports are attached to shell or roof. | ✓ | ok |
| | d. Inspect the surface that deck plate or grating rests on, for thinning and holes. | ✓ | ok |
| | e. Check that flat-surface-to-flat-surface junctures are seal-welded. | ✓ | ok |
| C.2.12.3 | **Deck Plate and Grating** | | |
| | a. Inspect deck plate for corrosion-caused thinning or holes (not drain holes) and paint failure. | | |
| | b. Inspect plate-to-frame weld for rust scale buildup. | | |
| | c. Inspect grating for corrosion-caused thinning of bars and failure of welds. | | |

| TANK OUT-OF-SERVICE INSPECTION CHECKLIST—Continued | | | |
|---|---|---|---|
| | Item | Completed √ | Comments |
| | d. Check grating tie down clips. Where grating has been retrofitted to replace plate, measure the rise of the step below and above the grating surface and compare with other risers on the stairway. | | |
| C.2.12.4 | **Stairway Stringers** | | |
| | a. Inspect spiral stairway stringers for corrosion, paint failure, and weld failure. Inspect attachment of stairway treads to stringer. | / | ok |
| | b. Inspect stairway supports to shell welds and reinforcing pads. | / | ok |
| | c. Inspect steel support attachment to concrete base for corrosion. | / | ok |
| C.2.12.5 | **Rolling Ladder** | N/A | |
| | a. Inspect rolling ladder stringers for corrosion. | | |
| | b. Identify and inspect ladder fixed rungs (square bar, round bar, angles) for weld attachment to stringers and corrosion, particularly where angle rungs are welded to stringers. | | |
| | c. Check for wear and corrosion where rolling ladder attaches to gaging platform. | | |
| | d. Inspect pivot bar for wear and secureness. | | |
| | e. Inspect operation of self-leveling stairway treads. | | |
| | f. Inspect for corrosion and wear on moving parts. | | |
| | g. Inspect rolling ladder wheels for freedom of movement, flat spots, and wear on axle. | | |
| | h. Inspect alignment of rolling ladder with roof rack. | | |
| | i. Inspect top surface of rolling ladder track for wear by wheels to assure at least 18 in. of unworn track (track long enough). | | |
| | j. Inspect rolling ladder track welds for corrosion. | | |
| | k. Inspect track supports on roof for reinforcing pads seal-welded to deck plate. | | |
| | l. Check by dimensioning, the maximum angle of the rolling ladder when the roof is on low legs.<br>Max. angle _____ . | | |
| | m. If rolling ladder track extends to within 5 ft of the edge of the roof on the far side, check for a handrail on the top of the shell on that side. | | |

**Notes:**